

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A system [(1)] for damping thermo-acoustic instability in a combustor device [(2)] for a gas turbine, the combustor device comprising at least one combustion chamber [(4)] and at least one burner [(7)] associated to said combustion chamber and mounted in a position corresponding to a front portion set upstream [(8)] of the combustion chamber; the damping system comprising at least one Helmholtz resonator [(12)], in turn comprising a casing [(13)] defining inside it a pre-set volume [(14)] and a neck [(15)] for hydraulic connection between said pre-set volume [(14)] and said combustion chamber [(4)]; said system being characterized in that said neck [(15)] is connected to one side of said combustion chamber [(4)] distant from said front upstream portion [(8)] thereof provided with said at least one burner [(7)].

2. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 1, characterized in that said combustion chamber [(4)] is of an annular type, said at least one resonator [(12)] being set in a circumferential position about said combustion chamber, housed within an air case [(16)] for delivery of air for supporting combustion set outside an annular body [(10)] delimiting said combustion chamber.

3. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 2, characterized in that said casing [(13)] of the resonator comprises means [(18)] for delivery of a cooling fluid.

4. (Currently Amended) The system [(1)] for damping thermo-acoustic instability according to Claim 3, characterized in that said means for delivery of a cooling fluid consist of a plurality of holes [(18)] of a pre-set diameter made through the casing [(13)] of the resonator and designed to enable passage of part of said air for supporting combustion towards said combustion chamber [(4)] directly through said pre-set volume and said neck of the resonator [(12)].

5. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 4, characterized in that said holes are made only through an end plate  $[(20)]$  of said casing of the resonator, facing the side opposite to said combustion chamber  $[(4)]$ , and are arranged in positions asymmetrical to one another.

6. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 2 ~~any one of Claims 2 to 5~~, characterized in that said casing  $[(13)]$  of the resonator comprises means for selectively varying said pre-set volume  $[(14)]$  within a pre-set range.

7. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 6, characterized in that said casing  $[(13)]$  of the resonator comprises two cup-shaped tubular bodies  $[(21, 22)]$ , which are mounted in a telescopic way co-axially on one another, with respective concavities facing one another, by means of a threaded coupling  $[(23)]$ ; and a threaded fixing ring-nut  $[(24)]$ , which is coupled outside on one first  $[(22)]$  of said cup-shaped tubular bodies provided, in a single piece, with said neck  $[(15)]$  and is designed to bear axially upon one second  $[(21)]$  of said cup-shaped tubular bodies, screwed outside on the former one on the side opposite to said combustion chamber.

8. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 2 ~~any one of Claims 2 to 7~~, characterized in that said casing  $[(13)]$  and said neck  $[(15)]$  of said at least one resonator have a cylindrical symmetry and are arranged with respective axes of symmetry  $[(B)]$  thereof parallel to one another and oriented to form a pre-set angle with a direction of flow  $[(6)]$  of burnt gases that traverse said combustion chamber.

9. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 8, characterized in that said pre-set angle is substantially of  $90^\circ$ .

10. (Currently Amended) The system  $[(1)]$  for damping thermo-acoustic instability according to Claim 8 ~~either Claim 8 or Claim 9~~, characterized in that it comprises more than one of said Helmholtz resonators  $[(12)]$ , said combustor comprising more than one of said burners  $[(7)]$ ; said resonators  $[(12)]$  being mounted circumferentially in a ring, in cantilever fashion on said annular body  $[(10)]$  delimiting said combustion chamber  $[(4)]$ , in positions asymmetrical with respect to one another, both in a radial direction and in the axial direction with reference to an axis of symmetry  $[(A)]$  of said annular combustion chamber, and with the respective necks  $[(15)]$  hydraulically connected to a downstream portion  $[(5)]$  of said combustion chamber.